

RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF THE CLAIMS

This is an appeal from the final rejection dated May 1, 2002 of claims 7, 11, and 13-19 (original claims 8, 12, and 14-20). Claim 8 (original claim 9) is also pending in the application.

STATUS OF AMENDMENTS

An amendment under 37 C.F.R. § 1.116 was filed on November 25, 2002 requesting cancellation of original claim 7 (renumbered claim 6) and an amendment to original claims 8-9 (renumbered claims 7-8). A correct copy of appealed claims 7, 11, and 13-19 (original claims 8, 12, and 14-20), including all entered amendments effective on the date of this Amended Appeal Brief, appears in the attached Appendix. On December 11, 2002, an Advisory Action was issued indicating that the amendment filed on November 25, 2002 was entered for the purposes of Appeal. Original claims 7-9, 12, and 14-20 have been renumbered as claims 6-8, 11, and 13-19 in accordance with the Notification of Non-Compliance issued on February 11, 2003.

SUMMARY OF THE INVENTION

Embodiments of the present invention relate to a display apparatus for a notebook

computer. [Title] In embodiments a display is pivotably attached to a notebook computer. [Page 20, lines 13-15] The notebook computer may include a driving circuit (i.e. a graphics control board and a panel printed circuit board) that drive drivers of the display, the panel printed circuit board being also referred as a module control board and having a timing control board and a backlight driver. [Page 20, lines 17-21] The display includes the drivers for driving the display. [Page 20, lines 26-29]. A flexible printed circuit film connects the driving circuit in the notebook computer with the drivers in the display. [Page 20, lines 28-32]

In embodiments, since the entire driving circuit is included in the notebook computer, a flexible printed circuit film does not exist between a graphics control board and a timing control board. [Page 21, lines 11-14] Accordingly, because the timing control board is not connected to the graphic control board by a flexible printed circuit film, clock signals will not be affected by noise. [Page 21, lines 11-14] By the clock signals not being affected by noise, an image displayed on a display will not be distorted. [Page 21, lines 14-16] Further, because a timing control board and a backlight unit driver can be located in the panel printed circuit board of the main housing, rather than located in the display, the overall circuit structure may be simplified and the display area may be enlarged. [Page 21, lines 15-25]

### ISSUES

1. Whether the Examiner erred in the rejection of claim 7 under 35 U.S.C. § 103(a) by not establishing a *prima facie* case of obviousness because the applied prior art

does not disclose a flexible printed circuit film that connects a timing control unit with drivers mounted on a display panel and a module control board having a timing control unit for driving drivers in a panel module and a backlight unit driver for driving a backlight unit in the panel module.

2. Whether the Examiner erred in the rejection of claims 11 and 13-19 under 35 U.S.C. § 103(a) by not establishing a *prima facie* case of obviousness because the applied prior art does not disclose a flexible printed circuit film that connects drivers and a driving circuit and a driving circuit for driving drivers in a display module and a backlight unit.

#### GROUPING OF THE CLAIMS

Appealed claim 7 forms a single group and stands or falls independently. Appealed claims 11 and 13-19 forms a single group and stand or fall together.

#### THE ARGUMENT

- Issue 1. **A *prima facie* case of obviousness was not established in the rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over "Applicants Admitted Prior Art" (AAPA) in view of Moriconi (U.S. Patent No. 5,546,098), in further view of Godfrey et al. (U.S. Patent No. 5,736,973).**

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the reference or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references.

The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000).

Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).

**Claim 7** recites a display apparatus comprising a panel module and a module control board. The panel module includes drivers mounted on a display panel that drives a pixel matrix. The module control board has a timing control unit for driving the drivers and a back light unit driver for driving the back light unit of the panel module. The apparatus further comprises a first connecting device that connects the timing control unit with the drivers. The first connecting device includes a flexible printed circuit film.

The disclosure in the present application in the "Description of the Prior Art" section of the present application does not disclose a first connecting device, including a flexible printed circuit film, connecting a timing control unit and drivers. Although this disclosure does show flexible printed circuit film 11 and 17, neither of these films connect a timing control unit to a driver. Further, this disclosure does not show a module control board having a timing control unit for driving drivers and a back light unit driver for driving a back light unit of a panel module. On page 2 of the Final Office action mailed May 1, 2002, it is stated that "...AAPA...fails to disclose that the timing control unit and the backlight driver [is] integrated into a printed circuit board."

Moriconi relates to a removable computer display interface. Godfrey et al. relates to an integrated backlight display system for a personal digital system. However, unlike the recitations of claim 7, neither Moriconi nor Godfrey et al. disclose a first connecting device, including a flexible printed circuit film, that connects a timing control unit with drivers. Further, these disclosures do not show a module control board having a timing control unit for driving drivers and a back light unit driver for driving a back light unit of a panel module.

Godfrey et al. discloses in Figure 3 and the accompanying description in column 4, lines 65-67 a "... backlight driver circuit, generally referenced at 22, is constructed on a conventional printed circuit board [PCB] 24." Additionally, Figure 6 and the accompanying description in column 6 describe backlight driver circuit 22. It is disclosed that backlight circuit 22 includes an oscillator. In column 6, lines 50-53, is it disclosed that "[a]n oscillator 64 supplies

switching signals 66 on conductors 68 and 70 to the bridge driver 56 to control the frequency of the AC waveform 58 applied to the electroluminescent film 36.” However, the oscillator is not a timing control unit for driving drivers, as recited in claim 7.

Accordingly, neither AAPA, Moriconi, nor Godfrey et al. disclose, alone or in combination, a first connecting device, including a flexible printed circuit film, that connects a timing control unit and drivers. Further, neither AAPA, Moriconi, nor Godfrey et al. disclose, alone or in combination, a module control board having a timing control unit for driving the drivers and a back light unit driver for driving the back light unit of the panel module. At least for these reasons, a *prima facie* case of obviousness has not been established in the rejection of claim 7 under 35 U.S.C. § 103(a).

The Appellants respectfully submit that neither the disclosures of Godfrey et al. nor Moriconi disclose the requisite suggestion or motivation to be modified or combined to teach or suggest the recitations of claim 7. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). On page 4, lines 4-5 of the Final Office Action the Examiner merely states that "...AAPA discloses that the FPC 21 is a flexible printed film." However, the Examiner offers no motivational statements disclosed in the cited prior art references that would have motivated one with no knowledge to the claimed invention to combine or modify references to teach a flexible printed circuit film connecting a timing control unit and drivers. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). At least for these reason, a *prima facie* case of obviousness has not been established in the rejection of claim 7 under 35 U.S.C. § 103(a).

Issue 2. ***A prima facie*** case of obviousness was not established in the rejection of claims 11 and 13-19 under 35 U.S.C. § 103(a) as being unpatentable over "Applicants Admitted Prior Art" (AAPA) in view of Moriconi (U.S. Patent No. 5,546,098), in further view of Godfrey et al. (U.S. Patent No. 5,736,973).

Claims 11 and 13-19 recite a notebook computer comprising a display module and a body module. The display module comprises drivers that drive a display device. The body module comprises a main printed circuit board and a driving circuit mounted on the main printed circuit board that drives the drivers in the display module. The driving circuit is a module control board. The module control board also drives a back light unit. That is, the module control board drives the back light unit as well as the drivers in the display module. The notebook computer comprises a connecting circuit comprising a flexible printed circuit film that connects the drivers and the driving circuit.

The disclosure in the present application in the "Description of the Prior Art" section of the present application does not disclose a connecting circuit comprising a flexible printed circuit film that connects drivers and a driving circuit. Although this disclosure does show flexible printed circuit film 11 and 17, neither of these films connect a driving circuit to drivers. Further, this disclosure does not show a module control board that drives drivers in the display module and a back light unit.

Moriconi relates to a removable computer display interface. Godfrey et al. relates to an integrated backlight display system for a personal digital system. However, unlike the recitations of claims 11 and 13-19, neither Moriconi nor Godfrey et al. disclose a flexible printed circuit film that connects drivers and a driving circuit. Further, neither Moriconi nor Godfrey et al. disclose a module control board that drives drivers in the display module and a back light unit.

Accordingly, neither AAPA, Moriconi, nor Godfrey et al. disclose, alone or in combination, a flexible printed circuit film that connects drivers and a driving circuit. Further, neither AAPA, Moriconi, nor Godfrey et al. disclose, alone or in combination, a module control board that drives drivers in the display module and a back light unit. At least for these reason, a *prima facie* case of obviousness has not been established in the rejection of claims 11 and 13-19 under 35 U.S.C. § 103(a).

The Appellants respectfully submit that neither the disclosures of Godfrey et al. nor Moriconi disclose the requisite suggestion or motivation for modification or combination to teach or suggest the recitations of claims 11 and 13-19. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner offers no motivational statements related to the recitation of a flexible printed circuit film in claims 11 and 13-19. At least for these reason, a *prima facie* case of obviousness has not been established in the rejection of claims 11 and 13-19 under 35 U.S.C. § 103(a).